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Amendments to the Claims

1-5. (Cancelled)

6. (Currently Amended) A method according to Claim 5 17 wherein the pad is of low mass, porous, hydrophilic and lipophilic.

7. (Currently Amended) A method according to Claim 5 17 wherein the pad is formed from materials selected from the group consisting of glass fibers and quartz fibers.

8. (Currently Amended) A method according to Claim 4 17 comprising keeping the sample at a substantially constant temperature during the step of drying the sample.

9-11. (Cancelled)

12. (Currently Amended) A method according to Claim 11 24 wherein the sheet material is polytetrafluoroethylene.

13-14. (Cancelled)

15. (Currently Amended) A method according to Claim 4 17 wherein the method is conducted for a plurality of samples immediately after one another.

16. (Original) A method according to Claim 15 wherein the analysis of the plurality of samples is conducted at a substantially constant temperature from sample to sample.

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17. (Currently Amended) A method of rapidly and accurately determining the fat and oil content of a sample that also contains moisture in amounts that would otherwise preclude NMR determination of the fat and oil content, the method comprising:

placing the sample on a sample pad that is substantially transparent to microwave radiation and that is free of atoms that would interfere with or mask the NMR response of the protons in the fats and oils in the sample;

weighing the sample and the sample pad;

thereafter drying the sample at a temperature sufficient to melt at least a portion of the fat and oil in the sample by subjecting the sample and sample pad to electromagnetic radiation in the microwave frequencies;

transferring the entire sample on the sample pad to a proton pulse NMR analyzer that measures the relaxation times of protons in the sample in response to pulsed irradiation at radio frequencies from the NMR analyzer;

measuring the pulse NMR response of the sample at substantially the same temperature as the drying step to identify the pulse NMR response of protons associated with fats and oils;

comparing the pulse NMR response of the sample with the known pulse NMR responses of similar samples of known fat and oil content to determine the fat and oil content in the sample; and

quantitatively determining the fat and oil content in the sample prior to drying.

18. (Original) A method according to Claim 17 comprising reweighing the sample and sample pad after drying the sample.

19-20. (Cancelled)

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21. (Original) A method according to Claim 17 and further comprising calculating the percentage of moisture in the sample based on the weight change during drying.

22. (Original) A method according to Claim 17 comprising keeping the sample at a substantially constant temperature during the step of drying the sample.

23. (Cancelled)

24. (Original) A method according to Claim 17 wherein the step of transferring the sample on the pad further comprises wrapping the sample and pad in a sheet material that is free of atoms that would interfere with or mask the NMR response of the protons in the fats and oils in the sample.

25. (Cancelled)

26. (Currently Amended) A method according to Claim 25 17 comprising measuring the NMR response immediately following the drying step.

27. (Original) A method according to Claim 17 further comprising the step of generating a plurality of NMR response of samples of known fat and oil content.

28. (Currently Amended) A method according to Claim 17 of rapidly and accurately determining the fat and oil content of a plurality of samples that also contain moisture in amounts that would otherwise preclude NMR determination of the fat and oil content, the method comprising:  
~~weighing a first sample;~~

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—drying the first sample by subjecting the sample to electromagnetic radiation in the microwave frequencies;

—transferring the entire first sample to a proton pulse NMR analyzer that measures the relaxation times of protons in the sample in response to pulsed irradiation at radio frequencies from the NMR analyzer;

—measuring the pulse NMR response of the first sample to identify the pulse NMR response of protons in the sample that are associated with fats and oils;

—comparing the pulse NMR response of the first sample with the known pulse NMR responses of similar samples of known fat and oil content to determine the fat and oil content in the sample; and

repeating the above placing, weighing, drying, transferring, measuring, comparing, and fat-determining steps for a second sample.

29-30. (Cancelled)

31. (Original) The method according to Claim 28 wherein the second sample is weighed immediately after the first sample.

32. (Original) The method according to Claim 28 wherein the second sample is dried immediately after the first sample.

33. (Original) The method according to Claim 28 wherein the NMR response of the second sample is measured immediately after the NMR response of the first sample is measured.

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34. (Original) The method according to Claim 28 wherein the steps of drying the sample and measuring the NMR response occur at substantially the same temperature for the plurality of samples analyzed.

35. (Original) A method according to Claim 28 further comprising:  
weighing the first sample prior to the step of drying the first sample;  
reweighing the first sample after the step of drying the first sample;  
calculating the percentage of moisture in the first sample based on the weight change during drying;  
calculating the fat and oil content of the first sample based upon the weight of the sample prior to drying and the fat and oil content determined by NMR analysis; and  
repeating each of the above steps for the second sample.

36-42. (Canceled)

43-67. (Canceled)

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